

REMARKS

Applicants respectfully request entry of the above amendments and reconsideration of the following arguments pursuant to 37 C.F.R. § 1.111.

1. Status of the Claims

Claims 1-4 and 6-15 stand pending and rejected. Claims 5 and 16 stand previously canceled.

Upon entry of the present amendments, Applicants amend claims 1, 11, and 15 to more precisely recite the claimed subject matter. Support for the amendments can be found at least, for example, from the originally presented claims. Support for the amendments of claims 1 and 15 can be found at least from (1) originally presented claim 11, and (2) lines 1-3, page 11 of the Specification. Support for the amendments of claim 11 can be found at least from lines 11-12, page 12 of the Specification. Applicants do not believe that the amendments add prohibited subject matter that is unsupported in the Specification as filed.

The claims have been amended without prejudice to, or disclaimer of, the canceled subject matter. Applicants reserve the right to file a continuation or divisional application on any subject matter canceled by way of amendments.

2. Information Disclosure Statement

Applicants appreciate the Office's acknowledgement of the Information Disclosure Statement filed November 20, 2009.

Applicants note that the Office did not initial JP 02-219543 (with English Abstract) listed on the IDS filed November 20, 2009. Applicants respectfully request that the Office acknowledge JP 02-219543 English Abstract. Applicants respectfully request acknowledgment with the Office's next communication.

3. Rejection of the Claims Under 35 U.S.C. § 103(a)

The Office maintains the obviousness rejection of claims 1-4 and 6-15 over **Kanebo Ltd**, JP 06-292544 ("Kanebo") in view of **Rusoff**, U.S. Patent No. 2,957,769 ("Rusoff").

Kanebo allegedly discloses preparing a beverage containing fat/oil. Office Action, page 2. Kanebo allegedly teaches (1) mixing an extracted solution of cacao beans with water and an emulsifying agent; (2) heating the mixture to less than 85°C; (3) homogenizing the mixture to create a stable beverage solution; and (4) including milk in the beverage. *Id.* The homogenization step allegedly results in a stable beverage solution. *Id.* The Office admits that Kanebo fails to teach or suggest using a centrifuge. *Id.*

Rusoff allegedly teaches (1) extracting cocoa beans with hot water, and (2) filtering the extract to remove fine particles. *Id.*, at 2-3. Rusoff allegedly describes using a centrifuge to filter the cocoa extract. *Id.*, at 3. The Office apparently applies Rusoff to teach the use of a centrifuge to produce a cacao extract containing smaller particles. *Id.*, at 3.

The Office admits that *both* Kanebo and Rusoff also fail to teach (1) the temperature of centrifugation, (2) the fat content of the beverage, and (3) the addition of milk or milk-derived ingredient to the extract. *Id.* The Office, however, asserts that a skilled artisan is expected to adjust the temperature and the fat content, while the addition of milk to a cacao drink is known in the art. *Id.*

Applicants traverse the rejection to the extent it may be applied to the amended claims. The traverse is based on the following grounds.

3.1. The references fail to adduce *prima facie* obviousness

A finding of obviousness under 35 U.S.C. § 103 requires that both the suggestion of the claimed invention and the expectation of success must be in the prior art, not in the disclosure of the claimed invention. *In re Dow Chem. Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988). Additionally, “obviousness requires a suggestion of *all* limitations in a claim.” *CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342, 68 U.S.P.Q.2d 1940, 1947 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (C.C.P.A. 1974) (emphasis added)). Additionally, both the suggestion of the claimed invention and the expectation of success must be in the prior art, not from the disclosure of the claimed invention, to render a claim obvious. *In re Dow Chem. Co.*, 837 F.2d 469, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988); *Examination Guidelines*

for Determining Obviousness under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc., 72 Fed. Reg. 57,528.

Each of independent claims 1 and 15 as amended recites, *inter alia*, (1) removing insoluble solids from a hot water extract of cacao nibs through a two-phase (solid-liquid) separation with a disk centrifuge to obtain a fat/oil-rich extract, and (2) homogenizing “at a pressure of about 50-200 kg/cm².” The cited references fail to teach or suggest at least these elements.

The Office admits that Kanebo, the primary reference, fails to teach using a centrifuge to remove insoluble solids. Kanebo actually teaches using *a paper filter* to remove insoluble solids from a cacao nib extract. *See* Kanebo English translation, page 19, [0031]. The Office relies upon Rusoff as the secondary reference to cure the defect of Kanebo. However, Rusoff merely mentions “centrifuge” or “centrifugation” *once* in the entire document:

Moreover, the other methods of extraction employed required a filtration step. Such filtration may be effected by any conventional means such as a plate and frame filter, a filter wheel and, of course a *centrifuge* may be employed if desired.

Rusoff, col. 4, lines 65-70 (emphasis added). Rusoff must be considered for what it teaches *as a whole*. Rusoff fails to teach or suggest treating the extract with “a disk centrifuge for two-phase (solid-liquid) separation,” which is presently recited. Accordingly, Rusoff fails to cure at least this defect of Kanebo.

The cited references also fail to teach the presently claimed homogenizing pressure, *i.e.*, 50-200 kg/cm². In fact Kanebo teaches away from the homogenization pressure.

The aforesaid homogenizing pressure is set to 500 kg/cm² or higher, preferably from 700 to 1500 kg/cm². If the pressure is lower than 500 kg/cm², insufficient homogenization results, and the particle size of the water-insoluble component is not reduced; as a consequence, a cream layer is formed in long-term storage.

See English translation of Kanebo, ¶ [0022]. Kanebo teaches that the homogenizing pressure must be higher than 500 kg/cm², which is outside the presently claimed range. The secondary reference Rusoff does not teach the homogenizing pressure. Rusoff is only relied upon for its purported teaching as to using a centrifuge to filter the cocoa extract. Accordingly, Rusoff fails to cure at least this defect of Kanebo.

Accordingly, Kanebo and Rusoff, alone or viewed in combination, fail to teach (1) removing insoluble solids from a hot water extract of cacao nibs through a two-phase (solid-liquid) separation with a disk centrifuge, and (2) homogenizing at the claimed pressure. Without all claim elements taught, there can be no expectation of success that the presently claimed methods would have worked.

The Office argues that the selection of a disk centrifuge over any other type of centrifuge would have been reasonable. Office Action, page 4. As to the claimed “two-phase (solid-liquid) separation,” the Office argues that a skilled artisan would have expected a centrifuge to achieve the claimed separation, because centrifuge is used as an alternative to filtration. *Id.*

Applicants note that Rusoff at best may teach using a centrifuge, but not a disk centrifuge. Nor does Rusoff suggest using, as presently claimed, a *disk* centrifuge to achieve two-phase (solid-liquid) separation. The Office is reminded that a skilled artisan “is a person of ordinary creativity, not an automaton.” *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421, 82 U.S.P.Q.2d 1385, 1397 (2007). To render the presently claimed methods obviousness, a skilled artisan must have had some apparent reason to select the claimed centrifuge—“a disk centrifuge for two-phase (solid-liquid) separation”—among various centrifugation methods available. *See Ex parte Whalen*, 89 U.S.P.Q.2d 1078, 1084 (Bd. Pat. App. & Int. 2008) (precedential). The Office fails to provide any rationale why a skilled artisan would have been directed to such a specific type of centrifuge by these two references, let alone why the centrifuge would have achieved the claimed separation. Accordingly, there cannot be direction to combine the elements as asserted by the Office in a manner that would have reasonably provided an expectation of success to practice the presently claimed methods.

Furthermore, Kanebo is directed to solving a stable emulsified beverage problem. Kanebo does not seek to produce a rich chocolate drink with a smooth texture and no graininess. Rusoff fails to teach a rich chocolate drink or a means of preparing an emulsified rich chocolate drink that also lacks graininess, instead providing a low fat drink. Thus the two references solve different problems using different methods and materials. There is no guidance provided by either Kanebo or Rusoff to solve the current problem presently solved by the instant method

claims. Applicants note that the only way the Office appears to achieve combining the references is through the hindsight roadmap of Applicant's own Specification. The Office is reminded that it is not permitted in an obviousness analysis to pick and choose between all the options and teachings presented by each of the references to arrive at the combination of limitations as presented in the claims. *See e.g., AKZO N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1781, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986) (one "cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention.").

3.2. The Office mischaracterizes Rusoff and/or the presently claimed methods

The Office argues, "[t]he final cocoa extract [of Rusoff] is said to contain 2-6[%] solids (column 4, lines 72-74), **as required in claim 6.**" Office Action, page 3 (emphasis added). The Office apparently relies on this statement to apply the secondary reference Rusoff.

Applicants note that the Office mischaracterizes Rusoff and/or the presently claimed methods. Rusoff states, "**the concentration of solids in the extract** of cacao material obtained in accordance with the present invention is 2-6%." *See* Rusoff, col. 4, lines 72-74 (emphasis added). The described percentage of Rusoff, *i.e.*, 2-6%, thus refers to the content of the dissolved solids in the obtained cacao extract. Claim 6 actually recites, *inter alia*, "the cacao nib extract after removal of insoluble solids **has a cacao fat/oil content of 1 g to 200 g when calculated per kg of cacao nibs** before being extracted." Claim 6 thus recites the proportion of fat/oil, *i.e.*, 0.1% to 20%, of the cacao nibs being extract. The percentage of Rusoff and the presently recited proportion in claim 6 are incomparable, because they refer to at least different ingredients (solids vs. fat/oil). Accordingly, the Office fails to provide a reason why Rusoff would have been applied as a secondary reference to teach the alleged limitation. It does not teach the alleged limitation.

3.3. The Office fails to consider Rusoff as a whole

The Office is further reminded prior art references must be considered as a *whole*, including portions that would lead away from the claimed invention. *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Rusoff actually teaches (1) removal of fat/oil from an extract, and (2) water as the preferred extracting solvent to avoid extraction of fat. *See e.g.*, Rusoff, col. 2, line 72 to col. 3 line 3; col. 3, lines 55-56. Particularly, Rusoff states, “**Removal of fat** insures complete solubility for the flavor extract.” *See* Rusoff, col. 3, lines 9-10 (emphasis added). Accordingly, Rusoff at best may teach a method preparing a **fat-free** flavor extract from cacao. On the other hand, Kanebo teaches a method preparing a homogenized beverage with fat/oil, therefore solving a different problem. *See* Kanebo, Abstract (“an extracted solution of cacao beans” is an example of fats and oils). The present claims recite producing a **fat/oil-rich** extract. When viewed as a whole, Rusoff actually teaches away from the presently claimed methods. There is no guidance provided by either Rusoff or the Office as to why someone at the time would have selected among the different teachings to combine the different methods and materials in order to solve the current problem from the other method steps and ingredients taught. This appears to be a hindsight achieved analysis.

The Office argues that Applicants’ argument is unpersuasive. The Office states the following:

Applicant argues that Rusoff also separates fat from water in his extraction... The passage referring to centrifugation at column 4, lines 30-75 relates to liquid/solid separation and not to fat/water separation. Solids would be expected to separate from liquids as a result of the filtration by centrifugation process of the claims.

Office Action, page 4. Applicants do not dispute the liquid/solid separation taught in Rusoff. Instead, Applicants note that Rusoff, *when viewed as a whole*, teaches preparing a **fat-free** cacao extract, while Applicants’ is not fat-free. The Office fails at least to show why a skilled artisan would have combined Rusoff with Kanebo, *because the references teach methods solving opposite problems using different methods*. Additionally, the Office fails to provide any

evidence why there would have been a reasonable expectation of success when a step adopted in producing *a fat/oil-free extract* is applied to a process producing *a fat/oil-rich extract*.

Applicants note that the only way the Office appears to achieve combining the elements from the references is through the hindsight roadmap of Applicants' own Specification. The Office is reminded that it is not permitted in an obviousness analysis to pick and choose between all the options and teachings presented by each of the references to arrive at the combination of limitations as presented in the claims. *See AKZO N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1781, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986) (one "cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention.").

3.4. The Office fails to fully consider unexpected results achieved with the instant claims

Applicants further point out that the claimed methods yield unexpected results over cited art. Kanebo teaches using *a paper filter* to remove insoluble solids from a cacao nib extract. *See* Kanebo English translation, page 19, [0031]. Kanebo's removal process and the resulting extract differ significantly from the claimed methods. First, paper filters generally are not recommended in large-scale industrial processes, because they are not strong enough to withstand the relatively high flow rates, *e.g.*, about 10 ton/hr, which are commonly required in an industrial application. If Kanebo's method is employed in large-scale processes, paper filters will be prone to get damaged, and need to be frequently replaced. The paper filters generally have a great variation in the pore size. The presence of larger pores would lead to ineffective filtration, *i.e.*, fine particles would pass through the larger pores and remain in the filtrate. Paper filters will readily become clogged due to the deposit of large particles on the filter, thus stopping filtration.

The Office is further reminded that the problem solved by Kanebo's method is a means of obtaining beverage capable of being at a stable, emulsified state for a prolonged period of time. The objective is apparently achieved by the addition of emulsifying agents and stabilizers. *See* Abstract and partial translation of Kanebo. In contrast, Applicants teach the removal of insoluble

particles of the claimed methods is achieved through a two-phase (solid-liquid) separation with a disk centrifuge, which results in more effective removal of insoluble solids, including fine particles. *See e.g.*, Specification, Table 3 on page 17. Accordingly, there is no need to add any emulsifier or stabilizer, such as cellulose powder, to prevent the precipitation of insoluble solids, resulting in a drink of superior taste and lacking the grittiness associated with precipitates. *See e.g.*, Specification, page 5, lines 19-25.¹

The claimed methods are also unexpected over Rusoff, because the presently claimed removal step keeps most of cacao fat/oil in the extract, but eliminates the fine particles that produce graininess. Rusoff's method produces an extract that is *free* of fat/oil components. It is not an emulsified fat rich chocolate drink. The claimed extract has a rich cacao flavor because of the presence of a high fat/oil content. *See e.g.*, Specification, paragraph bridging pages 13-14.² Accordingly, the claimed methods offer unexpected advantages over both Kanebo and Rusoff.

Applicants point out that there existed at the time a long-standing commercial need to produce an emulsified, stable chocolate drink that (1) has rich chocolate taste without (2) being grainy.

The Office states, "Kanebo is not the only reference relied upon in the rejection." Office Action, page 5. The Office must have meant that unexpected advantages over Kanebo alone are insufficient. Applicants note that unexpected advantages are presented regarding both Kanebo and Rusoff. Applicants respectfully request reconsideration of the above arguments.

In view of the above arguments, Applicants submit that claims 1 and 15 are non-obvious over cited references. Dependent claims 2-4 and 6-14 are likewise nonobvious. Accordingly, Applicants respectfully request withdrawal of the obviousness rejection and allowance of the claims.

¹ "The chocolate drinks thus produced not only have a smooth texture in the mouth without graininess because they are free from insoluble solids, but also have a refreshing aftertaste because they are not supplemented with any stabilizer intended for preventing precipitation."

² "Thus, the present invention enables the production of excellent chocolate beverages characterized by: 1) having a smooth texture in the mouth because they are free from insoluble solids; 2) having a good refreshing aftertaste because they require no stabilizer; and 3) *having a rich cacao flavor because, if desired, they may have a*

CONCLUSION

Should the Office have any questions or comments regarding Applicants' amendments or response, Applicants' undersigned representative can be contacted at (202) 842-8821. Please direct all correspondence to the below-listed address.

In the event that the Office believes that there are fees outstanding in the above-referenced matter, and for purposes of maintaining pendency of the application, the Office is authorized to charge the outstanding fees to Deposit Account No. 50-0573. The Office is likewise authorized to credit any overpayment to the same Deposit Account Number.

Respectfully Submitted,



Date: June 9, 2010

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high content of cacao nib-derived flavor- and taste-enhancing components (fat/oil components)." (Emphasis added).